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Fact sheet for the Chairman
Subcommittee on Defense,
Committee on Appropriations,
House of Representatives

516-D

January 1986

ADP ACQUISITIONS

Information on Navy's Personnel and Pay Computer Project

ORIGINAL

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GAO/IAM

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

INFORMATION MANAGEMENT
& TECHNOLOGY DIVISION

January 23, 1986

B-221554

The Honorable Joseph P. Addabbo
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

In response to your November 4, 1985, request, we are evaluating the Department of the Navy's personnel and pay systems consolidated computer center project, known as PERSPAY. You requested that we provide you with status reports in January and March 1986. As discussed with your office, this fact sheet presents (1) background information on PERSPAY and a chronology of events, (2) the automatic data processing equipment purchased to support PERSPAY, and (3) PERSPAY funding and costs. Information on these three topics is presented in the appendices.

We compiled the information in this document largely from interviews with PERSPAY officials and documents we reviewed at three major PERSPAY sites: the Navy Finance Center in Cleveland, Ohio; the Consolidated Data Center in Bratenahl, Ohio; and the Naval Military Personnel Command in Washington, D.C. We also interviewed current and former congressional staff and Navy officials who were involved with the PERSPAY project in its early years. In addition, we reviewed PERSPAY contracts and related documents, as well as consultants' and other written reports pertinent to the project. Navy PERSPAY officials provided most of the information that went into developing this fact sheet.

We did not independently verify the Navy's PERSPAY cost data. In addition, we did not discuss the fact sheet with Navy officials; nor did we request official agency comments on a draft of this document.

Our work on PERSPAY continues, and we will provide you our results in a follow-up report. As arranged with your office, we will send this fact sheet to the Secretary of the Navy, the

B-221554

Administrator of General Services, the Director of the Office of Management and Budget, and others upon request. If you have any questions regarding the enclosed document, please contact Mr. Theodore Gearhart, Group Director, on 275-3188.

Sincerely yours,

William Franklin

William Franklin
Associate Director

Enclosures - 4

II

Contents

APPENDIX		Page
I	PERSPAY Background	1
II	PERSPAY Chronology	2
III	Number and Type of Mainframe Computers at the Three Major PERSPAY Sites	15
IV	PERSPAY Funding and Cost Data	19

ABBREVIATIONS

ADP	automatic data processing
CDC	Consolidated Data Center
GAO	General Accounting Office
IBM	International Business Machines
MAISRC	Major Automated Information System Review Council
NFC	Navy Finance Center
NMPC	Naval Military Personnel Command
PERSPAY	Navy's Personnel And Pay Systems Consolidated Computer Center Project

PERSPAY BACKGROUND

In 1975, the General Services Administration granted the Navy Finance Center (NFC) and the Naval Military Personnel Command (NMPC) separate delegations of procurement authority[1] to "sole-source" (purchase without competition) International Business Machines computers for an interim period. Each delegation of procurement authority stipulated that these computers were to be replaced in 1979 with a fully competitive procurement.

In 1978, the Navy initiated a project--known later as PERSPAY--to (1) jointly and competitively procure automatic data processing (ADP) equipment for NFC and NMPC to satisfy requirements of the delegations of procurement authority and (2) consolidate ADP operations for pay and personnel at the Navy's data center in Bratenahl, Ohio. The Navy believed that the consolidated acquisition and operations would (1) lower the cost of ADP equipment through economies of scale, (2) facilitate the interface and integration of separate personnel and pay information systems, and (3) reduce redundancy of information flow and data processing.

However, before the Navy could conduct the consolidated acquisition, it had to standardize NFC's and NMPC's computer operations. In 1980, the Congress suggested that the Navy acquire interim ADP equipment, as needed, while upgrading and standardizing NFC's and NMPC's operations, before initiating the planned, fully competitive consolidated acquisition.

In December 1980, the Navy requested separate delegations of procurement authority from General Services for NFC and NMPC to upgrade their computers. The Navy awarded contracts for interim computers for NMPC and NFC in December 1982 and January 1984, respectively. Several International Business Machines computers were acquired and, to date, have been providing automated support for the PERSPAY project.

A follow-on, fully competitive computer acquisition which, as stated above, the Navy was committed to in 1979, is planned for 1989. The cost of this procurement is expected to exceed $60 million.

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[1]Public Law 89-306 (the Brooks Act) authorizes the Administrator of General Services to coordinate and provide for the economic and efficient purchase, lease, and maintenance of ADP equipment by federal agencies. The Administrator may delegate the authority, to one or more federal agencies, to lease, purchase, or maintain ADP equipment to allow for the orderly implementation of a program and utilization of such equipment.

PERSPAY CHRONOLOGY

DATE	EVENT
(DATE UNK.) 1975	THE GENERAL SERVICES ADMINISTRATION GRANTS NFC AND NMPC SEPARATE INTERIM PROCUREMENT AUTHORITY TO "SOLE-SOURCE" (PURCHASE WITHOUT COMPETITION) EQUIPMENT FROM THE INTERNATIONAL BUSINESS MACHINES (IBM) CORPORATION. THIS ADP EQUIPMENT WAS TO BE REPLACED IN 1979 WITH A FULLY COMPETITIVE PROCUREMENT.
FEBRUARY 1978	WHILE REVIEWING THE NAVY's PLANNED ADVANCED INFORMATION SYSTEM, GAO NOTES THAT BOTH NFC AND NMPC ARE ACQUIRING NEW COMPUTERS. GAO SUGGESTS THAT THE NAVY CONSIDER A JOINT ADP EQUIPMENT PROCUREMENT TO SATISFY NFC's AND NMPC's NEEDS, AND STUDY THE ECONOMICAL BENEFIT OF COLLOCATING THE TWO DATA PROCESSING CENTERS. NAVY OFFICIALS AGREE AND CONCLUDE THAT COLLOCATION WOULD BE ECONOMICALLY AND OPERATIONALLY ADVANTAGEOUS. (SEE GAO REPORT, LCD-78-122, DATED SEPTEMBER 18, 1978.)
APRIL 1978	NFC AND NMPC AGREE TO JOINTLY AND COMPETITIVELY PROCURE REPLACEMENT ADP EQUIPMENT. THIS PROCUREMENT--KNOWN AS BRAND X--IS TO SATISFY THE REQUIREMENT TO COMPETITIVELY BUY REPLACEMENT EQUIPMENT IN 1979. JUNE 1980 IS ESTABLISHED AS THE JOINT PROCUREMENT AWARD DATE.
JANUARY 1979	PROJECT MASTER PLAN FOR BRAND X PROCUREMENT IS ISSUED BY THE PROJECT MANAGER, NAVAL DATA AUTOMATION COMMAND. MAJOR GOALS ARE TO --MERGE NFC's AND NMPC's ADP OPERATIONS, --REDUCE REDUNDANCY OF INFORMATION FLOW AND DATA PROCESSING, AND --TRANSFER ALL OF NFC's AND NMPC's MISSION-ESSENTIAL ADP SYSTEMS.

DATE	EVENT
MARCH 1979	NMPC, NFC, AND THE NAVAL DATA AUTOMATION COMMAND AGREE TO FUNDING POLICY FOR BRAND X PROJECT. THE DECISION IS TO PROCEED WITH A FULLY COMPETITIVE ADP EQUIPMENT BUY, COSTING $171.8 MILLION FOR AN 11-YEAR PERIOD.
JUNE 1979	A CONSULTANT FAMILIAR WITH THE PERSPAY PROJECT PROVIDES THE FOLLOWING OBSERVATIONS TO HOUSE APPROPRIATIONS COMMITTEE STAFF: --PROJECT OBJECTIVES ARE NOT CLEAR. --THERE IS LITTLE AGREEMENT ABOUT WHICH PERSONNEL SYSTEMS WILL BE TRANSFERRED TO THE CENTRALIZED SITE. --THE NAVY LACKS A PLAN FOR INTEGRATING PERSONNEL AND PAY DATA BASES. --WITHOUT TOTAL INTEGRATION, RESULTING SAVINGS MIGHT BE NEGLIGIBLE.
JUNE 1979	NFC COMPUTERS ARE UPGRADED TO THE IBM MULTIPLE VIRTUAL STORAGE OPERATING SYSTEM. THIS WILL BE THE STANDARD OPERATING SYSTEM FOR THE CENTRALIZED SITE.
JULY 1979	THE CONSOLIDATED DATA CENTER (CDC) IN BRATENAHL, OHIO, IS SELECTED AS THE CENTRALIZED DATA PROCESSING SITE FOR NFC AND NMPC APPLICATIONS. THIS FACILITY HAS BEEN NFC's DATA PROCESSING CENTER SINCE 1974.
JULY 1979	PLANNED TRANSFERS OF NMPC PERSONNEL TO THE CDC ARE ESTABLISHED. BEGINNING IN FISCAL YEAR 1982, NMPC WILL TRANSFER 123 OF ITS BILLETS (POSITIONS) TO HELP STAFF THE CONSOLIDATED SITE.

DATE	EVENT
SEPTEMBER 1979	THE NAVY REQUESTS AUTHORITY FROM GENERAL SERVICES TO PURCHASE BRAND X ADP EQUIPMENT TO REPLACE EQUIPMENT BOUGHT UNDER THE 1975 INTERIM AUTHORITY. THE BRAND X EQUIPMENT WOULD BE INSTALLED AT THE CDC AND WOULD BE PURCHASED UNDER A 20-YEAR CONTRACT. ESTIMATED PROJECT COSTS: $171.8 MILLION ASSUMING NO CONVERSION COSTS OR $221.4 MILLION WITH CONVERSION COSTS. NOTE: CONVERSION OF APPLICATION SOFTWARE IS GENERALLY REQUIRED WHEN TRANSFERRING THE SOFTWARE FROM OLD HARDWARE TO NEW HARDWARE BECAUSE OF DIFFERENT SYSTEM CHARACTERISTICS. THIS IS ESPECIALLY SIGNIFICANT AND COSTLY WHEN CHANGING FROM ONE PRODUCT TO ANOTHER.
NOVEMBER 1979	THE ASSISTANT SECRETARY OF THE NAVY FOR FINANCIAL MANAGEMENT APPROVES PROJECT NAME CHANGE FROM BRAND X TO PERSPAY AND ESTABLISHES THE FOLLOWING GOALS AND OBJECTIVES, WHICH INCLUDE --A CONSOLIDATED DATA PROCESSING FACILITY TO SUPPORT NFC's AND NMPC's ADP MISSION REQUIREMENTS; --STANDBY AND BACKUP PROCESSING; --SYSTEMS GROWTH AND MOBILIZATION CAPABILITY; --A FUNDING METHODOLOGY FOR THE CDC, INCLUDING A SYSTEM FOR USER REIMBURSEMENT; AND --A TRANSITION OF ALL USER-SPECIFIED APPLICATION SYSTEMS TO THE CDC.
DECEMBER 1979	IN A MEMORANDUM TO THE OFFICE OF THE SECRETARY OF DEFENSE, COMPTROLLER, THE NAVY's CHIEF OF NAVAL OPERATIONS INFORMATION SYSTEMS BRANCH ADVISES THAT IT WOULD BE INAPPROPRIATE FOR PERSPAY TO BE REVIEWED UNDER THE REQUIREMENTS OF DEPARTMENT OF DEFENSE DIRECTIVE 7920.1, "LIFE-CYCLE MANAGEMENT OF AUTOMATEAD SYSTEMS" BECAUSE PERSPAY IS A JOINT COMPUTER REPLACEMENT PROJECT AND NOT A DEVELOPMENTAL AUTOMATED INFORMATION SYSTEM.

APPENDIX II

DATE	EVENT
JANUARY 1980	NMPC REVISES ITS TRANSFER OF BILLETS TO THE CDC FROM 123 TO 92. ALSO, NFC DESIGNATES 100 BILLETS FOR TRANSFER TO THE CDC.
FEBRUARY 1980	THE CDC IS UNDER NFC's COMMAND. NMPC AND NFC ARE DESIGNATED AS THE CDC's TWO MAJOR CUSTOMERS UNDER PERSPAY.
FEBRUARY 1980	HOUSE GOVERNMENT OPERATIONS COMMITTEE STAFF DISAGREES WITH THE PERSPAY PROCUREMENT STRATEGY BECAUSE THE STRATEGY ENCOMPASSES TOTAL SYSTEM COSTS, INCLUDING CONVERSION COSTS.
JUNE 1980	HOUSE APPROPRIATIONS COMMITTEE STAFF BELIEVES SOFTWARE CONVERSION COSTS SHOULD BE INCLUDED IN THE ADP EQUIPMENT PROCUREMENT TO DETERMINE THE LOWEST TOTAL OVERALL COST DURING A SYSTEM's LIFE CYCLE. THE COMMITTEE STAFF ALSO ASKS THE NAVY IF IT HAS MADE A DETAILED STUDY OF DATA BASE CONSOLIDATION (i.e., INTEGRATION). THE NAVY SAYS IT WILL DO THIS STUDY AFTER CONSOLIDATING NFC's AND NMPC's DATA PROCESSING OPERATIONS. NOTE: BOTH CONGRESSIONAL COMMITTEES AGREED THAT NMPC NEEDED TO CONVERT AND STANDARDIZE ITS SOFTWARE APPLICATIONS TO THE CDC's OPERATING SYSTEM ENVIRONMENT. THEREFORE, THE COMMITTEES SUGGESTED THAT NMPC ACQUIRE INTERIM HARDWARE TO ACCOMPLISH THE CONVERSION AND MIGRATE THE APPLICATIONS TO THE CDC. (FOR THE PURPOSE OF THIS DOCUMENT, MIGRATE REFERS TO THE PHYSICAL TRANSFER OF APPLICATION SOFTWARE.)

DATE	EVENT
JUNE 1980	THE NAVY DEVELOPS NEW ACQUISITION STRATEGY FOR PERSPAY PROJECT, WHICH INVOLVES TWO SEPARATE ADP EQUIPMENT PROCUREMENTS AS INTERIM MEASURES, TO BE FOLLOWED BY A FULLY COMPETITIVE REPLACEMENT ACQUISITION. NMPC's ACQUISITION WILL UPGRADE EXISTING ADP EQUIPMENT AND CONVERT TO THE CDC OPERATING SYSTEM ENVIRONMENT. NFC's ACQUISITION WILL REPLACE EXISTING ADP EQUIPMENT AT THE CDC AND BUILD CAPACITY FOR CONSOLIDATION. STATE-OF-THE-ART EQUIPMENT WILL COMPRISE BOTH BUYS.
SEPTEMBER 1980	A REPORT BY THE HOUSE APPROPRIATIONS COMMITTEE (96-1317) EXPRESSES CONCERN ABOUT THE NEW PERSPAY ACQUISITION STRATEGY. IT NOTES THAT THE NAVY --MAY NOT BE TRULY COMMITTED TO PERSONNEL AND PAY DATA BASE INTEGRATION, --HAS NOT DEVELOPED AN OPERATING PLAN, AND --MAY BE ACQUIRING MORE COMPUTER CAPACITY AND POWER FOR THE CDC THAN IS REQUIRED. THE HOUSE APPROPRIATIONS COMMITTEE DIRECTS THE NAVY TO DEVELOP AN OPERATING PLAN THAT SUPPORTS A CONSOLIDATED DATA BASE AND A SINGLE OPERATION IN ONE LOCATION BEFORE APPROPRIATING FUNDS FOR PERSPAY IN FISCAL YEAR 1982.
OCTOBER 1980	PERSPAY SUPPORT AGREEMENT DEFINES RESPONSIBILITIES. AMONG OTHER THINGS, THE AGREEMENT STATES THAT NMPC WILL BE RESPONSIBLE FOR INPUT AND OUTPUT FUNCTIONS (i.e., PRE- AND POST-PROCESSING) FOR SYSTEMS IT TRANSFERS TO THE CDC.

APPENDIX II

DATE	EVENT
NOVEMBER 1980	THE NAVY TELLS HOUSE APPROPRIATIONS COMMITTEE STAFF IT HAS PREPARED A CONCEPT OF OPERATIONS AND SUPPORT AGREEMENT BETWEEN NFC AND NMPC THAT REQUIRES A CONSOLIDATED ADP OPERATION IN ONE LOCATION. THE NAVY SAYS IT IS CONDUCTING A DATA SYNCHRONIZATION STUDY--THE FIRST STEP TO DATA BASE INTEGRATION.
NOVEMBER 1980	PROPOSED CONTRACT AWARD FOR NMPC's PERSPAY EQUIPMENT IS SCHEDULED FOR JANUARY 1981. PROPOSED CONTRACT AWARD FOR CDC's PERSPAY EQUIPMENT IS SCHEDULED FOR JUNE 1982.
DECEMBER 1980	THE NAVY REQUESTS TWO SEPARATE PROCUREMENT AUTHORITIES FROM GENERAL SERVICES TO REPLACE CURRENT COMPUTER SYSTEMS AT CDC AND NMPC. SYSTEMS ACQUIRED WILL BE BRAND NAMES OR THEIR EQUIVALENT. REQUIREMENTS FOR EACH PROCUREMENT ARE ESTABLISHED AS FOLLOWS: --NMPC: 2 COMPUTERS, EACH WITH 8 MEGABYTES OF MEMORY CAPACITY. --CDC: 5 COMPUTERS, EACH WITH 12 MEGABYTES OF MEMORY CAPACITY. THE NAVY TELLS GENERAL SERVICES IT WILL RELEASE NMPC's INTERIM COMPUTERS AFTER APPLICATION SOFTWARE HAS BEEN CONVERTED AND MIGRATED TO THE CDC IN OCTOBER 1985. CDC's COMPUTERS (AN INTERIM ACQUISITION TO A FINAL, FOLLOW-ON ADP EQUIPMENT PROCUREMENT) ARE TO PROVIDE THE CDC WITH SUFFICIENT PROCESSING CAPABILITIES TO SUPPORT PERSPAY CONSOLIDATION AND SYSTEMS GROWTH. THESE INTERIM COMPUTERS WILL BE RELEASED IN DECEMBER 1988, WHEN THE FOLLOW-ON PROCUREMENT PROVIDES THE REPLACEMENT ADP EQUIPMENT ON A FULLY COMPETITIVE BASIS.

DATE	EVENT
FEBRUARY 1981	GENERAL SERVICES OFFICIALLY GRANTS THE NAVY AUTHORITY FOR THE TWO PERSPAY PROCUREMENTS, REQUESTED IN DECEMBER 1980. ESTIMATED ADP EQUIPMENT COST FOR THE PROGRAM IS $52.6 MILLION: $7.3 MILLION FOR THE TWO NMPC COMPUTER SYSTEMS AND $45.3 MILLION FOR THE FIVE CDC COMPUTER SYSTEMS. GENERAL SERVICES TELLS THE NAVY THAT THE PROCUREMENT AUTHORITY MUST BE CONSUMMATED BY DECEMBER 1982. THIS AUTHORITY IS GRANTED AS AN INTERIM MEASURE, UNTIL A FULLY COMPETITIVE ACQUISITION CAN BE ACCOMPLISHED. (NO DATE IS CITED FOR THE FOLLOW-ON, COMPETITIVE ACQUISITION.)
APRIL 1981	THE NAVY MEETS WITH A HOUSE APPROPRIATIONS COMMITTEE STAFF MEMBER TO DISCUSS PERSPAY UPDATE. THE NAVY SAYS IT HAS RECEIVED ADP EQUIPMENT PROCUREMENT AUTHORITY FROM GENERAL SERVICES TO PROCEED WITH THE REVISED STRATEGY TO BUY ADP EQUIPMENT FOR CDC AND NMPC (i.e., LARGE MAINFRAMES FOR BOTH SITES). THE NAVY ALSO INFORMS THE COMMITTEE STAFF MEMBER OF ITS DATA SYNCHRONIZATION STUDY. THE MEETING CONCLUDES WITH THE COMMITTEE STAFFER STILL EXPRESSING CONCERN ABOUT THE NAVY's COMMITMENT TO INTEGRATING NFC's AND NMPC's DATA BASES.
AUGUST 1981	NMPC REQUESTS CHANGES IN ITS PERSPAY EQUIPMENT SPECIFICATIONS TO INCLUDE AN INCREASE IN COMPUTER MEMORY CAPACITY FROM 8 MEGABYTES TO 16 MEGABYTES FOR EACH COMPUTER. THE NAVAL DATA AUTOMATION COMMAND APPROVES THE REQUEST.
OCTOBER 1981	THE NAVY ISSUES ITS DATA BASE SYNCHRONIZATION STUDY, WHICH STATES THAT THE PERSPAY PROJECT, BY ITSELF, WOULD DO LITTLE TO ACHIEVE INTEGRATION. THE STUDY SUGGESTS AN APPROACH FOR INTEGRATING PAY AND PERSONNEL DATA BASES WHICH, IF FOLLOWED, IS EXPECTED TO TAKE 5 TO 7 YEARS TO ACCOMPLISH.

APPENDIX II

DATE	EVENT
NOVEMBER 1981	NMPC REQUESTS ANOTHER CHANGE IN ITS PERSPAY EQUIPMENT SPECIFICATIONS. ITS FIRST PERSPAY COMPUTER WAS TO BE AN IBM 3033; NMPC HAD TO SUBSTITUTE THIS WITH AN IBM 4341 SO THAT IT COULD BE INSTALLED AT THE CDC. THE NAVAL DATA AUTOMATION COMMAND APPROVES THE REQUEST.
DECEMBER 1981	NMPC AGREES TO TRANSFER 92 OF ITS BILLETS TO THE CDC IN 1985.
FEBRUARY 1982	NMPC AGREES TO TRANSFER THE FIRST 5 OF 92 NMPC-PROMISED BILLETS TO PROVIDE OPERATIONAL SUPPORT AT THE CDC. THREE OF THE TRANSFERS WILL BE MADE IN FISCAL YEAR 1982, THE OTHER TWO IN FISCAL YEAR 1983.
APRIL 1982	THE NAVY REQUESTS CHANGES IN CDC's PERSPAY EQUIPMENT SPECIFICATIONS TO INCLUDE AN INCREASE IN COMPUTER MEMORY CAPACITY FROM 12 MEGABYTES TO 24 MEGABYTES FOR EACH COMPUTER. THE NAVY COMPTROLLER APPROVES THE REQUEST.
MAY 1982	NAVY SUMMARIZES THE COST IMPACT OF NPC's AND NMPC's CHANGES IN THEIR ORIGINAL PERSPAY EQUIPMENT SPECIFICATIONS. LARGELY BECAUSE OF INCREASES IN COMPUTER MEMORY CAPACITY FROM INITIAL REQUIREMENTS, PERSPAY LIFE-CYCLE COSTS ARE EXPECTED TO INCREASE BY ABOUT $25 MILLION.
OCTOBER 1982	NMPC DETAILS CONVERSION EFFORT NEEDED TO CONVERT TO THE PERSPAY OPERATING SYSTEM ENVIRONMENT: 18,000 PROGRAMS, OVER 7 MILLION LINES OF CODE, AND 9 LANGUAGES.

DATE	EVENT
DECEMBER 1982	IN A MEMORANDUM TO THE VICE CHIEF OF NAVAL OPERATIONS, THE NAVY INSPECTOR GENERAL STATES THAT THE ORGANIZATIONAL SPLIT BETWEEN THE NAVY's PAY AND PERSONNEL COMMANDS IS NOT A DESIRABLE SITUATION FOR ACHIEVING INTEGRATION OF PAY AND PERSONNEL SYSTEMS. HE SUGGESTS THAT A SINGLE POINT OF RESPONSIBILITY FOR PAY AND PERSONNEL SYSTEMS IS NECESSARY, IF THESE SYSTEMS ARE TO BE EFFECTIVELY IMPLEMENTED.
DECEMBER 1982	COMPETITIVE CONTRACT AWARDED TO SYSTEMHOUSE, INC., FOR THE NMPC PERSPAY EQUIPMENT; COMPUTERS CONSIST OF ONE IBM 4341 AND ONE IBM 3033.
MARCH 1983	THE FIRST NMPC PERSPAY COMPUTER, AN IBM 4341, IS INSTALLED AT THE CDC.
APRIL 1983	TO IMPROVE PERSPAY PLANNING AND COORDINATION, NMPC AND NFC AGREE TO ESTABLISH JOINT CONCEPTUAL PLANNING GROUP.
MAY 1983	NFC PROPOSES A CONSTRUCTION ADDITION TO THE CDC: ADD 22,500 SQUARE FEET, AT A COST OF $3.7 MILLION. NFC NOTES THAT ADDITIONAL SPACE IS REQUIRED TO INSTALL PERSPAY ADP EQUIPMENT.
JUNE 1983	PROCUREMENT AUTHORITY FOR THE CDC, WHICH WAS TO HAVE BEEN CONSUMMATED BY DECEMBER 1982, IS EXTENDED BY GENERAL SERVICES UNTIL MARCH 1984.
JUNE 1983	THE SECOND NMPC PERSPAY COMPUTER, AN IBM 3033, IS INSTALLED AT NMPC.

APPENDIX II

DATE	EVENT
JUNE 1983	JOINT CONCEPTUAL PLANNING GROUP ESTABLISHES THREE PERSPAY PHASES: PREPARATION, COLLOCATION, AND CONSOLIDATION. COMPLETION IS SET FOR JULY 1984, 1986, AND 1988, RESPECTIVELY. A JULY 1988 TO JULY 1993 TIMEFRAME IS ESTABLISHED FOR POTENTIAL FOLLOW-ON PERSONNEL/PAY INTEGRATION PROJECT.
SEPTEMBER 1983	THE FUNCTIONAL TRANSFER OF REMAINING 87 NMPC BILLETS TO THE CDC IS NOT EXPECTED UNTIL FISCAL YEAR 1986, WHEN NMPC SOFTWARE APPLICATION MIGRATION TO THE CDC IS PLANNED TO BE COMPLETED.
OCTOBER 1983	NFC PROCURES AN IBM 4341 (12 MEGABYTE MEMORY), WHICH IS NOT PART OF THE PERSPAY PROCUREMENT. BOUGHT WITH NFC FUNDS, THIS MACHINE HELPS ALLEVIATE GROWING CAPACITY PROBLEMS AT THE CDC AND WILL EVENTUALLY BE USED AS NFC's REMOTE INPUT/OUTPUT PROCESSOR.
OCTOBER 1983	THE PERSPAY PROJECT MANAGEMENT ISSUES THE PERSPAY PROJECT MASTER PLAN, WHICH PROVIDES THE APPROACH FOR ACHIEVING PERSPAY OBJECTIVES.
DECEMBER 1983	NMPC COMPLETES CONVERSION OF ITS FIRST THREE APPLICATION SOFTWARE SYSTEMS TO THE CDC STANDARD OPERATING SYSTEM.
JANUARY 1984	A CONTRACT IS AWARDED TO IBM FOR THE CDC ADP EQUIPMENT. COMPUTERS CONSIST OF FOUR IBM 3081s AND ONE IBM 4341, THE LATTER TO BE INSTALLED AT NMPC TO PROCESS NMPC's CLASSIFIED SYSTEMS.
FEBRUARY 1984	THE CDC ISSUES ITS CONCEPT OF OPERATIONS, WHICH DETAILS HOW IT WILL FUNCTION, THE CUSTOMER SUPPORT IT WILL PROVIDE, AND THE RELATIONSHIPS BETWEEN THE CDC AND ITS CUSTOMERS.

DATE	EVENT
MARCH 1984	THE CDC ISSUES THE PERSPAY SYSTEM ARCHITECTURE PLAN, WHICH IDENTIFIES WHAT MUST BE DONE TO TRANSITION BETWEEN THE CURRENT AND PLANNED ADP EQUIPMENT ENVIRONMENTS AT THE CDC, NFC, AND NMPC.
APRIL 1984	THE FIRST PERSPAY COMPUTER FOR THE CDC, AN IBM 3081, IS INSTALLED. PERSPAY PROJECT OFFICIALLY MOVES TO THE COLLOCATION PHASE, AS NFC's APPLICATION SOFTWARE BEGINS ITS MIGRATION TO THE IBM 3081.
JUNE 1984	NMPC EXPRESSES CONCERN THAT THE CDC PLANS TO UPGRADE ITS OPERATING SYSTEM TO IBM's MULTIPLE VIRTUAL STORAGE/EXTENDED ARCHITECTURE, THEREBY PRECLUDING NMPC FROM BACKING UP CDC OPERATIONS IN THE EVENT OF A CDC OUTAGE.
SEPTEMBER 1984	NFC COMPLETES ALL APPLICATION SOFTWARE SYSTEMS MIGRATION TO THE CDC.
OCTOBER 1984	THE SECOND PERSPAY COMPUTER FOR THE CDC, AN IBM 3081, IS INSTALLED.
NOVEMBER 1984	NMPC's FIRST PERSPAY COMPUTER, AN IBM 4341 THAT WAS INITIALLY INSTALLED AT THE CDC, IS RELOCATED TO NMPC.
JANUARY 1985	AN IBM 4341 ACQUIRED UNDER CDC's CONTRACT IS INSTALLED AT NMPC TO BE DEDICATED TO SUPPORTING NMPC's CLASSIFIED SYSTEMS. THESE SYSTEMS WILL NOT BE CONSOLIDATED AT THE CDC.

APPENDIX II

DATE	EVENT
JANUARY 1985	CDC ISSUES ITS CUSTOMER GUIDE TO BE USED BY PROGRAMMERS AND TECHNICAL PERSONNEL AS A COMPREHENSIVE REFERENCE MANUAL DESCRIBING THE CDC OPERATING ENVIRONMENT, CDC SERVICES, HOW TO ACCESS THE CDC, AND CDC STANDARDS AND PROCEDURES.
FEBRUARY 1985	NMPC COMPLETES MIGRATION OF THE FIRST 4 OF ITS PLANNED 57 APPLICATION SOFTWARE SYSTEMS TO THE CDC.
MARCH 1985	DURING HEARINGS BEFORE THE SENATE SUBCOMMITTEE ON DEFENSE APPROPRIATIONS, THE NAVY SAYS THE PERSPAY PROJECT WILL INTEGRATE PAY AND PERSONNEL DATA BASES.
JUNE 1985	INITIAL DATES ARE SET FOR FOLLOW-ON ADP EQUIPMENT PROCUREMENT. CONTRACT AWARD IS SET FOR APRIL 1989, WITH FIRST DELIVERY IN JULY 1989.
JUNE 1985	NFC's IBM 4341 IS MOVED FROM THE CDC TO THE NFC, TO SERVE AS A REMOTE INPUT/OUTPUT PROCESSOR.
SEPTEMBER 1985	THE NAVY CITES TWO PROJECTS THAT ARE SEPARATE AND APART FROM THE PERSPAY PROJECT AND INVOLVE NO PERSPAY FUNDS. ONE, THE MILITARY PAY INTEGRATION PROJECT, WILL SEEK TO INTEGRATE COMMON PAY AND PERSONNEL DATA ELEMENTS INTO ONE LOGICAL FILE STRUCTURE. THE OTHER, THE DATA PROCESSING SECURITY SYSTEM PROJECT, WILL ADDRESS BACKUP AND RECOVERY CONTINGENCIES FOR POSSIBLE CDC SYSTEM FAILURES. PROJECTED FISCAL YEAR 1988-92 COSTS FOR THE TWO PROJECTS ARE $14.3 MILLION AND $20.4 MILLION, RESPECTIVELY.
NOVEMBER 1985	HOUSE APPROPRIATIONS COMMITTEE REQUESTS THAT GAO STUDY THE PERSPAY PROJECT.

DATE	EVENT
NOVEMBER 1985	NMPC MIGRATES ITS LARGEST APPLICATION SOFTWARE SYSTEM TO THE CDC. THIS MAKES 5 NMPC SYSTEMS NOW BEING RUN AT THE CDC, WITH 52 SYSTEMS STILL TO BE MIGRATED.
DECEMBER 1985	THE THIRD PERSPAY COMPUTER FOR THE CDC, AN IBM 3081, IS INSTALLED. CDC NOW HAS THREE LARGE MAINFRAMES, AS DOES NMPC. NFC ALSO HAS THE IBM 4341 (NOT PURCHASED WITH PERSPAY FUNDS), WHICH IS SERVING AS NFC's REMOTE INPUT/OUTPUT PROCESSOR. PERSPAY ADP EQUIPMENT CONTRACTS HAVE AN OPTION FOR ONE MORE COMPUTER FOR THE CDC. THE NAVY EXPECTS TO EXERCISE THIS OPTION IN 1987.
DECEMBER 1985	NMPC APPLICATION SOFTWARE MIGRATION TO THE CDC CONTINUES. THE EXPECTED COMPLETION DATE OF NMPC's APPLICATION SOFTWARE MIGRATION IS OCTOBER 1986.
JANUARY 1986	DEFENSE OFFICIALS STATE THAT PERSPAY WAS NOT PREVIOUSLY REVIEWED BY THE MAJOR AUTOMATED INFORMATION SYSTEM REVIEW COUNCIL (MAISRC) PROCESS. BUT, PERSPAY IS BEING EVALUATED TO DETERMINE WHETHER IT WILL BE A CANDIDATE FOR FUTURE MAISRC OVERSIGHT. NOTE: MAISRC IS A REVIEW BY APPROPRIATE OFFICE OF SECRETARY OF DEFENSE POLICY OFFICIALS ON KEY DECISIONS MADE DURING THE LIFE CYCLE OF EACH MAJOR AUTOMATED INFORMATION SYSTEM.

APPENDIX III

NUMBER AND TYPE OF MAINFRAME COMPUTERS AT THE THREE MAJOR PERSPAY SITES

DATE AND EVENT	COMPUTERS IN PLACE (All models are IBM)					
	NMPC		NFC		CDC	
	NO.	MODEL	NO.	MODEL	NO.	MODEL
APRIL 1978: NFC and NMPC agree to jointly procure ADP equipment they had planned to buy separately by 1979 to replace their existing equipment. This becomes known as the Brand X procurement. Note: At this time, the CDC was NFC's data processing facility, and ADP equipment at both locations serviced NFC.	1 1	360/65 370/165	1 1	1401 360/30	2	370/158
FEBRUARY 1979: Two IBM 370/158s are combined to form a multiprocessor. (For presentation purposes, this is still counted as two computers.)	1 1	360/65 370/165	1 1	1401 360/30	2	370/158
NOVEMBER 1979: Planned joint ADP equipment procurement, formerly known as Brand X, assumes a new title, the PERSPAY project.	1 1	360/65 370/165	1 1	1401 360/30	2	370/158
JUNE 1980: PERSPAY develops a new acquisition strategy. Instead of a single, joint buy, both NFC and NMPC plan to procure ADP equipment as interim measures to facilitate consolidation of data processing operations.	1 1	360/65 370/165	1 1	1401 360/30	2	370/158

APPENDIX III

DATE AND EVENT	COMPUTERS IN PLACE (All models are IBM)					
	NMPC		NFC		CDC	
	NO.	MODEL	NO.	MODEL	NO.	MODEL
JULY 1981: NFC releases its old IBM 1401. NFC buys and installs another IBM 370/158 at the CDC to alleviate growing capacity problems. This computer is bought with NFC funds and is not a part of the PERSPAY procurement.	1 1	360/65 370/165	1	360/30	3	370/158
DECEMBER 1982: Contract awarded for NMPC's PERSPAY equipment, to include an IBM 4341 and an IBM 3033.	1 1	360/65 370/165	1	360/30	3	370/158
MARCH 1983: First NMPC PERSPAY computer, an IBM 4341, is installed at the CDC.	1 1	360/65 370/165	1	360/30	3 1	370/158 4341
MAY 1983: NMPC releases its old IBM 360/65.	1	370/165	1	360/30	3 1	370/158 4341
JUNE 1983: Second NMPC PERSPAY computer, an IBM 3033, is installed at NMPC.	1 1	370/165 3033	1	360/30	3 1	370/158 4341
OCTOBER 1983: NFC buys and installs another IBM 4341 at the CDC to alleviate growing capacity problems. This computer is bought with NFC funds and is not part of the PERSPAY procurement.	1 1	370/165 3033	1	360/30	3 2	370/158 4341
DECEMBER 1983: One of the CDC's IBM 370/158s, installed in July 1981, is released.	1 1	370/165 3033	1	360/30	2 2	370/158 4341

APPENDIX III

DATE AND EVENT	COMPUTERS IN PLACE (All models are IBM)					
	NMPC		NFC		CDC	
	NO.	MODEL	NO.	MODEL	NO.	MODEL
JANUARY 1984: Contract awarded for NFC's PERSPAY equipment, to include four IBM 3081s to be installed at the CDC and one IBM 4341 to be installed at NMPC.	1 1	370/165 3033	1	360/30	2 2	370/158 4341
APRIL 1984: First NFC PERSPAY computer, an IBM 3081, is installed at the CDC.	1 1	370/165 3033	1	360/30	2 2 1	370/158 4341 3081
MAY 1984: The remaining two IBM 370/158s (the multiprocessor) are released by the CDC.	1 1	370/165 3033	1	360/30	2 1	4341 3081
OCTOBER 1984: Second NFC PERSPAY computer, an IBM 3081, is installed at the CDC.	1 1	370/165 3033	1	360/30	2 2	4341 3081
NOVEMBER 1984: First NMPC PERSPAY computer, originally installed at the CDC in March 1983, is relocated to the NMPC.	1 1 1	370/165 3033 4341	1	360/30	1 2	4341 3081
DECEMBER 1984: NMPC releases its old IBM 370/165.	1 1	3033 4341	1	360/30	1 2	4341 3081
JANUARY 1985: An IBM 4341, bought under NFC's PERSPAY contract, is installed at NMPC and dedicated to secure systems.	1 2	3033 4341	1	360/30	1 2	4341 3081
JUNE 1985: The IBM 4341, originally installed at the CDC in October 1983, is relocated to NFC to serve as NFC's remote input/output processor.	1 2	3033 4341	1 1	360/30 4341	2	3081

APPENDIX III

DATE AND EVENT	COMPUTERS IN PLACE (All models are IBM)					
	NMPC		NFC		CDC	
	NO.	MODEL	NO.	MODEL	NO.	MODEL
DECEMBER 1985: Third NFC PERSPAY computer, an IBM 3081, installed at the CDC, is combined with one of the existing 3081s to form a multiprocessor. (For presentation purposes, still counted as separate computers.)	1 2	3033 4341	1 1	360/30 4341	3	3081

PERSPAY FUNDING AND COST DATA[1]

Historical: FY 1978-84
Planned : FY 1985-91

Fiscal year	O&MN[2]	OPN[3]	Total	Cumulative Totals
	(000 omitted)			
1978	$ 197	$ 0	$ 197	$ 197
1979	1,188	0	1,188	1,385
1980	1,343	0	1,343	2,728
1981	3,651	0	3,651	6,379
1982	4,278	0	4,278	10,657
1983	7,506	0	7,506	18,163
1984	15,406	5,351	20,757	38,920
1985	11,759	10,828	22,587	61,507
1986	10,469	8,747	19,216	80,723
1987	11,273	4,338	15,611	96,334
1988	10,916	1,172	12,088	108,422
1989	10,604	0	10,604	119,026
1990	10,873	17,137	28,010	147,036
1991	11,799	17,806	29,605	176,641
	$ 111,262	$ 65,379	$ 176,641	

NOTE: The Navy has reported PERSPAY for fiscal year 1986, under Office of Management and Budget Circular A-11, Schedule 43-B, page 3-7.

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[1]Funding and cost data were received from the CDC and were not independently verified by GAO.

[2]O&MN denotes Operation and Maintenance, Navy appropriation. Items included under O&MN: Salaries, equipment rental, space, supplies, travel, other operating costs, systems analysis and programming, ADP studies, and ADP equipment maintenance.

[3]OPN denotes Other Procurement, Navy appropriation. OPN data reflects purchases of ADP equipment. Fiscal year 1984-88 OPN figures represent buy-outs of previously rented ADP equipment, while fiscal year 1990-91 figures are estimates of the follow-on PERSPAY procurement.

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